

REMARKS

Applicants respond hereby to the outstanding non-final Office Action mailed June 16, 2008, in the above-identified application. Claims 1-19 remain pending hereafter, where Claim 1 is an independent claim. Claim 1 is amended. Favorable reconsideration of this application in view of the foregoing amendments and remarks to follow is respectfully requested.

Replacement Drawing -Fig. 4

Attached is a replacement drawing sheet, FIG. 4 is amended to indicate that it refers to the "prior art."

§ 102(b) Rejection - Claims 1-7 and 16-19:

Claims 1-7 and 16-19 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Mascolo ("Congestion Control in High-Speed Communication Networks using Smith Principle," Automatica Pages 1921-1935 (1999)). In response, Applicants have amended independent Claim 1 and provide the following traversal of the rejection. Support for the amendment is found on page 5, lines 20 - 25 of the Specification and FIGs. 2 and 3. No new matter was added.

Claim 1, as amended, now recites a data communication apparatus comprising, *inter alia*, means for controlling a bit rate according to a proportional process and an integral process on the difference between a target value for said index and an observed value of said index, **said means for controlling including a multiplier for multiplying an observed value of data buffered in a network by a constant value and outputting a product which is added to a product of said integral process.**

In contrast, Mascolo as shown in FIG. 3 discloses a plant consisting of a forward delay in cascade with an integrator and of a backwards delay and a controller $G_{cl}(s)$ which computes an

input rate which is proportional through coefficient k , to the free space in the bottleneck queue, that is $r(t - T_{fb}) - x(t - T_{fb})$, decreased by the number of cells released by the source during the last round trip time RTT (Page 1926). More specifically, as can be seen in FIG. 4, the desired input-output of Mascolo's controller relies on a simple first-order system which includes a delay and transfer function $1/s$. In other words, Mascolo merely relies on transient dynamics (e.g. a capacitor as oppose to an Omp Amp in the present invention) to reach a steady state of the system. Hence, Mascolo fails to disclose a **multiplier for multiplying an observed value of data buffered in a network by a constant value and outputting a product which is added to a product of said integral process** as recited in amended Claim 1.

Therefore, Mascolo fails to anticipate the present invention and Applicants respectfully request withdrawal of this ground of rejection.

§ 102(e) Rejection - Claim 1:

Claim 1 stands rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Huang, et al. ("SRC: Stable Rate Control for Streaming Media," Published by Washington University School of Engineering and Applied Science on February 26, 2003, Pages 1-13 and later published by Global Telecommunications Conference, 2003. GLOBECOM '03. IEEE, Volume 7, Dec. 1, 2003 Page(s): 4016 - 4021) (Hereafter "Huang"). In response, Applicants rely on the above-described amendment to Claim 1 and traverse this rejection by indicating that Huang fails to disclose a means for controlling a bit rate according to a proportional process as set forth in amendment Claim 1.

In contrast, Huang merely discloses employing a conventional integrator as described at the bottom of page 5 along with a Zero-Order Hold couple to the plant which samples and holds a continuous signal over time T as shown in FIG. 5. Hence, Huang fails to disclose a **multiplier**

for multiplying an observed value of data buffered in a network by a constant value and outputting a product which is added to a product of said integral process as recited in amended Claim 1.

Therefore, Huang fails to anticipate the present invention and Applicants respectfully requests withdrawal of this ground of rejection.

§ 103(a) Rejection - Claims 8-11:

Claims 8-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mascolo as applied to Claims 1-4 and further in view of Rapsomanikis (RABR: A Service Based on Adaptive Rate Guarantees for Real-Time Video in ABR Networks” Adaptive Systems for Signal Processing, Communications, and Control Symposium 2000. AS-SPCC. IEEE 2000, Oct. 1, 2000 Pages 445 – 450) (Hereafter “Rapsomanikis”). In response, Applicants note that dependent Claims 8-11 all depend from Claim 1 which as stated above is believed allowable. Moreover, Applicants submit that Rapsomanikis fails to ameliorate the deficiency of Mascolo as that reference discloses an adaptive tracker as shown in FIG. 1(b) which employs a minimum variance self-tuning regulator as described on page 447.

Therefore, the hypothetical combination of Mascolo and Rapsomanikis fails to suggest or teach the present invention and Applicants respectfully requests withdrawal of this ground of rejection.

§ 103(a) Rejection - Claims 12-15:

Claims 12-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mascolo as applied to Claims 1-4 and further in view of Linzer (U.S. 6,141,447) (Hereafter “Linzer ‘447”). In response Applicants note that dependent Claims 12-15 all depend from Claim 1 which as stated above is believed allowable. Moreover, Applicants submit that Linzer ‘447

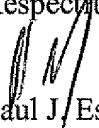
fails to ameliorate the deficiency of Mascolo as that reference fails to disclose any means of rate control in streaming video.

Therefore, the hypothetical combination of Mascolo and Linzer fails to suggest or teach the present invention and Applicants respectfully requests withdrawal of this ground of rejection.

Conclusion

Based on the above, it is respectfully submitted that all of the claims pending in the application are allowable and a Notice of Allowance is respectfully solicited.

Respectfully submitted,


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